Amendments to the Specification

Please replace paragraph [0057] with the following amended paragraph:

The amplified L-band wavelength band is further amplified by combining a second pump laser energy with the amplified L-band wavelength band using the second wavelength coupler 32. The second laser pump energy is supplied to the second input port of the second wavelength coupler 32 from the first pump laser 28 via the second output port of the power splitter 29. The second length of EDF 33 and a second optical isolator 34 operate in a similar manner to the first length of EDF 30 and the first optical isolator 31.

Please replace paragraph [0062] with the following amended paragraph:

Embodiments of the invention exploit the gain versus physical length of EDF characteristic seen in Figure 3 to provide C-band and L-band wavelength range signal amplification with a substantially flat gain for a multi-wavelength optical input. For example by using EDF to amplify the multi-wavelength optical input and dropping different wavelengths at different physical lengths of EDF it is possible to achieve a substantially flat gain response over a significant portion of the CWDM wavelengths. Add-drop multiplexers are an example of a mechanism that might be employed to drop one or more wavelengths subsequent to each length of EDF. One skilled in the art will appreciate that alternative mechanisms for dropping one or more wavelengths might be employed in some embodiments.

Please replace paragraph [0090] with the following amended paragraph:

More generally, any number of wavelength couplers such as the first wavelength coupler 66, the second wavelength coupler 76 and the third wavelength coupler 82 can be used in an optical amplifier provided by an embodiment of the invention depending on a desired number of optical amplification media segments used in the optical amplifier, and the number of wavelength channels to drop after each segment. In the example of Fig. 4, one wavelength channel is dropped after the first segment 70, two wavelength channels are dropped after the second segment 77, and a single wavelength channel goes on to be amplified by the last segment 83. In the example, two ~~couplers~~ add-drop multiplexers 79, 80 are used to drop the two wavelengths

after the second segment 77. This function may alternatively be achieved with a single ~~coupler~~ add-drop multiplexer. More generally, depending on a given application, different numbers of segments may be employed, with an appropriate number of wavelength channels (one or more) dropped after each segment. The invention is particularly suited for CWDM red band wavelengths. However, other embodiments of the invention may be adapted to handle other bands.

Please replace paragraph [0102] with the following amended paragraph:

Figure 5 illustrates another example embodiment provided by the invention. The example embodiment of Figure 5 is similar to that of the example embodiment Figure 4. In the embodiment of Figure 4, four amplified wavelengths are individually output from ~~the plurality of multi-port optical add-drop multiplexers 72,79,80,85~~ the plurality of multi-port optical add-drop multiplexers 72, 79, 80, and the NSF 85 and are combined together again with the N:1 optical multiplexer 73. However, in the embodiment of Figure 5, the plurality of multi-port optical add-drop multiplexers 105,106,107 have a minimum of four ports which allows each multi-port optical add-drop multiplexer to combine a first input from an output of a previous multi-port optical add-drop multiplexer with a second input from an output of a subsequent multi-port optical add-drop multiplexer or a noise suppression filter 108. In this manner four wavelengths can be added in consecutive loopbacks to avoid use of a N:1 optical multiplexer.